

REMARKS

Claims 1–20 are pending in the present application.

Claim 14 was amended.

The specification was amended solely to supply a patent application serial number which was not available at the time of filing. No new matter has been added to the specification.

Reconsideration of the claims is respectfully requested.

35 U.S.C. § 103 (Obviousness)

Claims 1–2, 7–9, 14–16 and 18–20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Publication No. 11-346142 (JP ‘142). This rejection is respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993).

If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP § 2142.

The independent claims each recite negating or "tuning out" parasitic or stray capacitances within a differential mode SAW resonator, allowing a series resonant circuit to be formed by the SAW resonator and a variable tuning capacitor coupled to a port of the SAW resonator. Additionally, by coupling the differential mode SAW resonator to a differential amplifier, a differential oscillator providing common mode rejection--and hence substantial

noise immunity--is formed. Such features are not shown or suggested in the cited reference, nor apparent to those skilled in the art. Any assertion within the Office Action that such a structure or process is well-known in the art is respectfully traversed.

Negating or tuning out stray capacitance at a selected frequency to allow a SAW resonator to form a series resonant circuit with an external capacitance is not taught or suggested in the relevant art. In general, as taught in U.S. Patent No. 6,239,664 and described in the specification, efforts to tune SAW resonators in order to achieve high Q filters have address parasitic capacitance within the SAW filters by suppressing the secondary responses introduced by such capacitances. Specification, page 3, line 19 through page 5, line 17.

JP '142 does not teach or suggest such a structure or process. Figure 6 of JP '142 depicts transformers 9 coupled to the input and output of a single-ended ("unbalanced") ladder-type SAW resonator circuit to achieve a differential ("balanced") circuit. The ladder-type SAW resonator circuit, depicted in greater detail in Figure 1, includes a series resonance element 4a having a capacitance C_s and a parallel resonance element 4b having a capacitance C_p , with the dual-ladder, center-grounded SAW resonator circuit proposed in JP '142 improving the ratio of C_p/C_s which may be obtained. However, JP '142 does not address stray or parasitic capacitance within a SAW resonator. Nor does JP '142 teach or suggest negating or tuning out such capacitances at a selected frequency so that the SAW resonator forms a tunable series

resonant circuit with an external variable capacitance. The ability to achieve such a result is not apparent from the teachings of JP '142.

In addition, JP '142 fails to teach or suggest coupling a series resonator circuit including a differential mode SAW resonator having stray capacitances tuned out and an external variable capacitance to a differential amplifier to form a differential oscillator providing common mode rejection and therefore significant noise immunity.

Therefore, the rejection of claims 1-2, 7-9, 14-16 and 18-20 under 35 U.S.C. § 103 has been overcome.

AMENDMENTS WITH MARKINGS TO SHOW CHANGES MADE

The paragraph on page 1 at lines 6–9 of the specification were amended herein as follows:

The present invention is related to the subject matter of commonly assigned, copending U.S. Patent Application No. 09/[_____] (Attorney Docket No. RFMI01-00213)]801,411, which is incorporated herein by reference.

Claim 14 was amended herein as follows:

1 14. (amended) The oscillator as set forth in Claim 8 wherein adjusting a capacitance of
2 the at least one variable tuning capacitance alters the resonant frequency for the SAW resonator
3 circuit by altering a total capacitance for a series resonator circuit formed by a series resonator
4 within the equivalent circuit for the SAW resonator and the at least one tuning capacitance and
5 wherein the differential amplifier and the differential mode SAW resonator circuit form a
6 differential amplifier providing common mode rejection.

SUMMARY


If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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Date: May 20, 2006



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